

August 18, 2005

Mr. Craig Hunt, Water Resource Control Engineer
Regional Water Quality Control Board—North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

Via Overnight and E-mail

16017.10

Subject: Response to RWQCB Comments on
AME's Work Plan for Additional Site Assessment
Former Georgia Pacific California Wood Products Manufacturing Facility
Fort Bragg, California

Dear Mr. Hunt:

This letter is submitted by Acton • Mickelson • Environmental, Inc. (AME) on behalf of Georgia Pacific Corporation (G-P) in response to the July 28, 2005 letter from the Regional Water Quality Control Board (RWQCB) – North Coast Region regarding AME's *Work Plan for Additional Site Assessment* dated June 8, 2005 (Work Plan), prepared for the G-P California Wood Products Manufacturing Facility, 90 West Redwood Avenue, Fort Bragg, California (site). Each comment made by the RWQCB is italicized and indented, followed by the associated response.

GENERAL COMMENTS

In the Response to Comments, a table of associated chemicals of potential concern and excerpts from the facility Hazardous Materials Business Plan were submitted in response to our request for a description of operations at the site since the Phase I report was prepared. Descriptions of the operations should also be submitted.

Following is a list of sawmill operations (parcel listings are not necessarily complete):

- Aircraft Fueling: Activities involved refueling of fixed-wing aircraft at the airstrip fueling area (Parcel 8) and refueling of rotary wing aircraft at the helicopter pad area (Parcel 2).
- Boiler Coolant/Cooling Towers: The purpose of the cooling towers was to cool turbine condensate (Parcel 4).
- Boiler Feed Water: To provide water to boilers to generate steam, water was softened and treated for anti-scaling in boiler drums and tubes (Parcel 4).

- Boiler Fueling and Operation: Hog fuel consisted of wood chips, shavings, sawdust, and bark, as well as certified recycled oil when needed as support fuel (Parcel 4).
- Compressors: Compressors containing oil were used at various locations to supply compressed air for operations.
- Explosives Storage: Explosives such as dynamite, ammonium nitrate, blasting caps, fuses, and possibly nitroglycerin were stored within the Explosives Bunker. Explosives were used during logging operations to develop roads.(Parcel 1).
- Fiber Plant/Bark Plant: An area where redwood bark was shredded and dried then packaged for various uses such as packing for well drilling and fruit protection during shipping (Parcel 6).
- Glu-Lam: Activities involved adhering multiple boards together to make stressed beams using Borden's or National Starch cold set glues (Parcel 2).
- Lumber Surface Treatment: For a short period of time certain high grades of green Douglas Fir were sprayed with an anti-stain treatment at the Sawmill #1 Green Chain area (Parcel 3).
- Lumber Treatment at Dip Tanks: During early operations specialty wood was dipped into a tank containing wood-preserving chemicals (e.g., pentachlorophenol and tetrachlorophenol) (Parcel 3).
- Machinery Routine Maintenance: Activities involved use of a variety of oils and solvents at numerous locations to provide routine machinery operation.
- Maintenance Shops: Activities at the Machine, Mobile Equipment, Plumbing, Sheet Metal and Electrical Shops involved usage of various oils and solvents (Parcels 3 and 5).
- Motor Vehicle Fueling: Activities involved refueling various types of trucks and heavy equipment (Hog Fuel Pile) (Parcel 4), as well as the Fuel Storage and Dispenser Building (Parcel 5).
- Motor Vehicle Maintenance: Activities involved routine motor vehicle maintenance such as repair work, oil changes, and other necessary maintenance (Parcels 5 and 6).
- Nursery: Located within Parcel 9, the Nursery consisted of five greenhouses, which contained tree seedlings. Fungicides, herbicides, and insecticides were used in the tree-growing process.

- Open Burning, including Beehive Burner: Historical Sanborn Maps show a Former Open Refuse Fire location approximately 185 feet south and 180 feet east of the southwest corner of Sawmill #1 (Parcel 4). A Beehive Burner used for burning scrap materials was located between Sawmill # 2 and the Sorter Building (Parcel 7).
- Plywood Plant: Activities involved gluing three or more veneers of wood together to form plywood; formaldehyde and phenol-based resins may have been involved in this process (Parcel 6).
- Ponds: Pond 6 was constructed to collect and evaporate stormwater runoff (Parcel 4). Pond 7 received scrubber effluent pumped from the Powerhouse (Parcel 4). The small pond north of Pond 6 was used as a settling pond for a hydraulic de-barker (Parcel 4). Pond 8 was used for log storage and scrubber-effluent treatment, and as a source of cooling water for the Power Plant (Parcels 4 and 5). Five ponds located south of Sawmill #2 consisted of a settling pond, an aeration pond, two holding ponds, and a pond of undesignated use (Parcel 7).
- Power Distribution Transformers: The main bank of large power transformers was located on the North side of the Powerhouse. In addition, there were numerous pad and pole-mounted transformers throughout the site. A pad measuring 20 by 70 feet approximately 200 feet north of the Mobile Equipment Shop currently supports non-poly chlorinated biphenyl (PCB) containing Transformers (Parcel 5).
- Power Generation: Power generation required for mill operation used equipment requiring hydrocarbon fuels and lubricants (Parcel 4).
- Roadway Dust Control: Many historic roadways crossing the site were unpaved and dust control consisting of motor oil, other waste oils, water, and lignite were used.
- Waste Fill: A stockpile of waste soil from underground storage tank (UST) excavation is located west of Sawmill #2 (Parcel 7), and an ash stockpile was observed in the sediment-drying area east of Pond 1 (Parcel 7) during the Phase I ESA. Waste fill has been spread within the sea cliff areas of Glass Beaches #1, #2, and #3 (Parcel 1) and within the western portion of Parcel 10.
- Water Treatment: The Water Treatment Plant was located northwest of the Power House and used for treatment of boiler water, specifically filtration, softening, chlorination, and pH control (Parcel 4).

If, during the course of the investigation work, alternative methodologies or additional sampling locations other than those in the Workplan need to be used, please contact Regional Water Board staff for approval. A brief written description may need to be submitted for documentation.

This comment is acknowledged.

Dioxin testing at the site is proposed in the Workplan for different operational areas, but the proposed testing is not summarized. A summary of the proposed dioxin testing should be submitted. This summary should relate the proposed sampling to the September 2, 2004 Exponent report contained in the September 9, 2004 TRC Response to Comments.

Five potential sources of polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans (PCDD/Fs) were listed in the September 2, 2004 report by Exponent as follows:

- Fly ash from the Powerhouse historically used as a soil amendment at an offsite location
- Bottom ash from the Powerhouse, which was placed onsite
- Limited open burning onsite
- PCBs historically used in electrical transformers
- Limited use of wood treatment chemicals (e.g., pentachlorophenol)

Based on Exponent's review, available data suggested that the PCDD/F concentrations in fly ash were very low and consistent with PCDD/F concentrations in rural background settings. No data were available to assess the potential presence of PCDD/Fs in the bottom ash or as a result of open burning. Collection of a limited number of samples was recommended to address these two potential sources. The extensive data available for PCBs and chlorinated phenols suggested that PCDD/Fs or PCDD/F-like compounds were unlikely to be present at the site as a result of historical use of PCBs and chlorinated phenols.

Thirteen areas of proposed dioxin testing were included in the Work Plan and are summarized as follows:

- Parcel 3, Former Planer #1 where lumber surface treatment occurred
- Parcel 3, Dry Sheds #4 and #5 in the Lumber Treatment Building area
- Parcel 4, Ponds sediment and Former North and South Pond areas where fly ash or bottom ash was potentially placed
- Parcel 4/5, Pond 8 (Mill Pond) and Storm Drain sediment where fly ash or bottom ash may have been placed or deposited
- Parcel 5, East Log Pond Fill area where fly ash or bottom ash was potentially placed

- Parcel 5, Open Refuse-Fire area where open burning occurred
- Parcel 6, Planer #2 where lumber surface treatment potentially occurred
- Parcel 6, West Log Pond Fill area where fly ash or bottom ash was potentially placed
- Parcel 7, Beehive Burner where open burning occurred
- Parcel 7, South Ponds sediment where fly ash or bottom ash was potentially placed
- Parcel 7, Ash stockpile where fly ash or bottom ash was stockpiled
- Parcel 8, Clinker Piles where fly ash or bottom ash was potentially stockpiled
- Parcel 10, Clinker Ash/Scrap Piles where fly ash or bottom ash was potentially stockpiled

PARCEL 3

Borings to collect groundwater samples for analysis for pentachlorophenol and tetrachlorophenol should be added to the green chain area and the lumber storage and loading areas of Parcel 3.

The following direct push borings for grab ground water sample analysis of pentachlorophenol and tetrachlorophenol are proposed in the Parcel 3 Green Chain and Lumber Storage and Loading areas as shown on revised Figure 7:

- Four borings in the Green Chain area
- Three borings in the Truck Loading Shed
- Four borings in Dry Shed #4
- Three borings in Dry Shed #5

A boring should be added in the former mobile equipment shop proximate to the aboveground gasoline tank that is or was located just east of Georgia-Pacific property.

According to a 1960s facility map there was a 12,000-gallon gasoline UST and 25,000-gallon diesel aboveground storage tank (AST) located approximately 150 feet northeast of the Parcel 3 Former Mobile Equipment Shop. One soil boring is being proposed at each structure as shown on revised Figure 7.

Selected soil samples and a grab ground water sample from the boring near the gasoline UST will be analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg) using EPA Method 8015, volatile organic compounds (VOCs) using EPA Method 8260, and lead using EPA Method 6010B/7400. Selected soil samples and a grab ground water sample from the boring near the diesel AST boring will be analyzed for Total Petroleum Hydrocarbons as diesel (TPHd)

using EPA Method 8015, benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8260, and polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270 (Table 5).

During the site visit June 30, 2005 with Michael Acton and Jeff Heglie of Acton Mickelson Environmental and others, we noted two features in the Machine Shop that should be added to the investigation. One was a sump that contained an oily material. The other was a possible track pit, indicated by differences in the floor paving.

One soil boring will be advanced at each location as shown on revised Figure 7 and continuously sampled down to the water table, where a grab ground water sample will be collected. Soil and ground water samples will be selectively analyzed for TPHD, TPHo, VOCs, PCBs, PAHs, and CA Title 22 metals (Table 5).

PARCEL 5

Monitoring wells should be installed between the mobile equipment shop and the log pond where TPH impacts were found through the July 2004 pothole investigation.

Two monitoring wells are proposed approximately 75 feet northwest and southwest of pothole P5-PH3 where TPHd impacts to soil were reported in the TRC July 2004 investigation. The proposed well locations are shown on revised Figure 9. Selected soil samples collected during drilling will be analyzed for TPHd using EPA Method 8015, BTEX using EPA Method 8260, and PAHs using EPA Method 8270 (Table 5).

The two former UST areas near the mobile equipment shop should be included in the geophysical investigation to check for underground storage tanks.

Proposed geophysical investigations have been added to the areas of the two former diesel USTs at the northwest corner and west of the Parcel 5 Mobile Equipment Shop as indicated on revised Figure 9.

PARCEL 10

The ash fill in this area should be evaluated for PAH and dioxin impacts.

All ash fill samples collected at the Parcel 10 Clinker Ash/Scrap Piles will be analyzed for PAH and dioxin impacts as recommended. Table 5 summarizes the proposed analytical program.

POND 8 (LOG POND)

It is not clear that the proposed boring methodology for the log pond sediments will be able to extend through the full depth of sediment and fill material to native material. A contingency plan should be submitted for how this sampling will be performed if the methodology proposed in the Workplan does not reach the full depth.

Use of angle borings is proposed as a contingency for drilling to native materials within the pond areas if manually pushed sediment probes are unsuccessful. A large direct push rig will be used to obtain a continuous core sample down to native materials. The rig will be positioned as near to the bank of the pond as practical and will drill at an approximate 30-degree angle to reach sediments beneath the pond. If refusal in fill materials occurs prior to reaching native materials, then a hollow-stem auger drill rig capable of angle drilling will be used. Samples will be taken at approximate 5-foot depth intervals during hollow-stem auger drilling.

It was stated in the Response to Comments that sediment samples may be analyzed for PCBs if PAHs are detected. PCB analyses should be performed on sediment samples regardless of PAH detections.

Analysis for PCBs will be performed on sediment samples collected at Pond 8 regardless of PAH detection (Table 5).

ANALYSES

What filtering method, if any, will be used on groundwater samples for metals analyses?

Use of 45-micron filtration is proposed for ground water samples collected for metals analyses.

The detection limit for tetrachlorophenol should be no higher than 1.0 µg/L.

The laboratory has stated that some method development is necessary for the inclusion of tetrachlorophenol in the list of analytes for EPA Method 8270. AME will work with the lab to establish the lowest feasible detection limit in this process.

In Table 1 of the Workplan, formaldehyde was listed as a chemical of potential concern. However, no analysis for formaldehyde was proposed and it was noted that formaldehyde is unstable in water. Formaldehyde should still be analyzed for in samples from the appropriate operational areas.

Analysis for formaldehyde in soil has been added to Table 5 for the Parcel 2 High-Ceiling Wooden Warehouse and Parcel 6 Planer #2 where glue resins containing formaldehyde were used. However, it should be noted that no formaldehyde as a raw material was stored at the site and that formaldehyde is a naturally occurring compound.

Analysis for oil-range TPH should be included in the analyses for the following areas (the numbers in parentheses are the corresponding section numbers in the Workplan): high ceiling wooden warehouse (5.2.1); railroad spurs (5.3.1); hazardous materials storage area (5.7.1); beehive burner and fuel aboveground storage tanks (5.7.2); and the soil stockpile (5.7.5).

Analysis of soil and ground water samples for Total Petroleum Hydrocarbons as oil (TPHo) using EPA Method 8015 has been added to Table 5 for the following areas:

- High-Ceiling Wooden Warehouse (Section 5.2.1)
- Railroad Spurs (Section 5.3.1)
- Hazardous Materials Storage area (Section 5.7.1)
- Beehive Burner and Fuel Aboveground Storage Tank (Section 5.7.2)
- Soil Stockpile (Section 5.7.5)

The TPH analyses performed need to produce results useable for the risk assessment. It had been proposed that the TPH Criteria Working Group method be used as part of the risk assessment.

AME and the risk assessment consultant, Tetra Tech, are working together to establish whether use of TPH Criteria Working Group is appropriate for this project and will report the outcome of these efforts under separate cover.

Will silica gel cleanup be used with any analyses for TPH?

As stated in Table 3 of the Work Plan, silica gel cleanup using EPA Method 3630C is proposed for all TPHd and TPHo analyses.

The testing for transformer oil impacts should include analysis for TPH in addition to the proposed PCB analysis.

Analysis of TPHo impacts using EPA Method 8015 has been added to Table 5 for the following transformer areas:

- Parcel 3, Former Planer #1 Transformer area (Section 5.3.2)
- Parcel 5, Transformer Pad (Section 5.5.4)

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If the RWQCB has any questions, please do not hesitate to contact us at (916) 939-7550.

Very truly yours,

ACTON • MICKELSON • ENVIRONMENTAL, INC.



Michael A. Acton, R.E.A.
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Jeff R. Heglie, R.G.
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Enclosures: 1. Table 5—Proposed Sampling and Analysis Summary
 2. Figure 7—Parcel 3, Proposed Soil Boring / Monitoring Well Locations
 3. Figure 9—Parcel 5, Proposed Soil Boring / Monitoring Well Locations

cc: Ms. Julie Raming, Georgia-Pacific Corporation
 Mr. Doug Heitmeyer, Georgia-Pacific Corporation
 Ms. Linda Ruffing, City of Fort Bragg
 Ms. Kay Johnson, Tetra Tech, Inc.

MA:tm

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling	Analysis	Further Action
5.1 Parcel 1		
<i>5.1.1 Pump House</i>		
<ul style="list-style-type: none">Two direct push soil borings will be advanced west of the Pump House, with continuous soil and grab ground water sampling performed at each soil boring.	Select soil and ground water samples will be analyzed for TPHd, TPHo, and VOCs.	Based on the analytical results, one or more ground water monitoring wells will be installed with 10 feet of screen casing as described in the SAP (Appendix A) to evaluate ground water conditions in the area.
<i>5.1.2 Explosives Bunker</i>		
<ul style="list-style-type: none">The interior of the bunker will be inspected with a remote/fiber optic camera to verify that it is empty.Two direct push soil borings will be advanced to the water table. One boring will be located immediately outside the door on the north side of the bunker, and one boring will be located 50 feet to the north in the area of the former wooden shed (Figure 5).	Soil and grab ground water samples will be analyzed for nitrate and nitroglycerine.	
5.2 Parcel 2		
<i>5.2.1 High-Ceiling Wooden Warehouse</i>		
<ul style="list-style-type: none">Two ground water monitoring wells will be constructed and screened from 5 to 15 feet bgs.<ul style="list-style-type: none">One ground water monitoring well will be installed west of the Breezeway between the Resaw #5 and Glue Lam Areas, downgradient of monitoring well MW-2.3.	Soil samples will be selectively analyzed for formaldehyde using EPA Method 8315, and ground water samples will be selectively analyzed for TPHo using EPA Method 8015, TPHd, TPHg, VOCs, phenol, resorcinol, and	

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
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90 West Redwood Avenue, Fort Bragg, California

Sampling	Analysis	Further Action
<ul style="list-style-type: none">▪ Based on a northwesterly historical ground water-flow direction in this area, the monitoring well will be located approximately 50 feet west of the Breezeway to evaluate the downgradient extent of ground water TPHd impact reported at soil borings P2-2, P2-4A, P2-5, and P2-6, and monitoring well MW-2.3.– One monitoring well will be installed southeast of soil boring P2-2 to evaluate ground water conditions upgradient of the facility.	CA Title 22 metals.	
5.2.2 Helicopter Landing Pad		
<ul style="list-style-type: none">• Two ground water monitoring wells will be constructed and screened from 5 to 15 feet bgs.<ul style="list-style-type: none">– One monitoring well will be installed northwest of monitoring well MW-2.1 to evaluate downgradient ground water conditions.– One monitoring well will be installed northwest of soil boring P2-11 to further evaluate TPHd impact reported in the grab ground water sample from that soil boring.	Soil and ground water samples will be collected and selectively analyzed for TPHd, TPHg, VOCs (including benzene, toluene, ethylbenzene, and xylenes), and CA Title 22 metals.	
5.3 Parcel 3		
5.3.1 Railroad Spurs		
<ul style="list-style-type: none">• A total of 12 soil borings.<ul style="list-style-type: none">– Two of the soil borings along the Railroad Spur will be located near previous soil boring P3-12 and continuously sampled to the water table, where grab ground water samples will be collected to evaluate the lateral and vertical extent of COPC impact where the soil TPHd concentration is the highest.	Soil and ground water samples will be analyzed for TPHo using EPA Method 8015, TPHd, VOCs, PAHs, and CA Title 22 metals.	

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling	Analysis	Further Action
<i>5.3.2 Former Planer #1</i>		
<ul style="list-style-type: none">Four direct push soil borings with grab ground water sampling will be advanced and continuously soil sampled to the water table at locations intermediate to former soil borings 98-P1-1 through 98-P1-4.	Select soil samples will be analyzed for pentachlorophenol, tetrachlorophenol, dioxins and furans (where pentachlorophenol is detected), propiconazole, didecyldimethylammonium chloride (DDAC), TPHd, TPHo, and VOCs.	
<ul style="list-style-type: none">Three direct push soil borings will be advanced and continuously soil sampled to the water table in the former transformer area between Former Planer #1 and Planer #50.	Selected soil samples will be analyzed for TPHo using EPA Method 8015 and PCBs.	Based on the findings an evaluation will be made to select monitoring well locations (tentative locations are shown on Figure 7): One ground water monitoring well will be constructed where sample analysis indicates the greatest potential impact and screened from 5 to 15 feet bgs, and a second monitoring well will be installed downgradient of the first monitoring well as described below and

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
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Sampling	Analysis	Further Action
		based on the historical ground water flow direction. One ground water monitoring well will be constructed and screened from 5 to 15 feet bgs to characterize TPHd and TPHo impact downgradient of Former Planer #1.
<ul style="list-style-type: none">Two direct push borings with soil and grab ground water sampling will be advanced at the two sand- and wood-filled foundation pits in the northeast area of Former Planer #1.	The grab ground water and selected soil samples will be analyzed for TPHd, TPHo, PAHs, and VOCs.	
<i>5.3.3 Dry Shed Numbers 4 and 5</i>		
<ul style="list-style-type: none">Two soil borings will be advanced and continuously soil sampled down to the water table, where grab ground water samples will be collected, within the Former Lumber Treating Building Area.<ul style="list-style-type: none">Of the two soil borings, one will be located approximately 40 feet south of the northwest corner of Dry Shed #4 and the second approximately 60 feet north of the northwest corner.One soil boring further downgradient will be advanced and continuously soil sampled down to the water table, where a grab ground water sample will be collected, approximately 75 feet west-southwest of the northwest corner of Dry Shed #4.	Soil and ground water samples will be selectively analyzed for pentachlorophenol, tetrachlorophenol, and dioxins and furans (where pentachlorophenol is detected).	

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
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Sampling	Analysis	Further Action
<i>5.3.4 Former Mobile Equipment Shop</i>		
<ul style="list-style-type: none">Three soil borings with grab ground water sampling will be advanced northeast, west, and southwest of the Former Mobile Equipment Shop.Based on an evaluation of data from the initial borings, approximately three ground water monitoring wells will be constructed in the vicinity of the Former Mobile Equipment Shop (soil samples will be collected at 5-foot intervals during drilling, and grab ground water samples will be collected at the water table).One soil boring with grab ground water sampling will be advanced at the 12,000-gallon UST located approximately 150 feet northeast of the Former Mobile Equipment Shop.One soil boring will be advanced at the 25,000-gallon diesel AST located approximately 150 feet northeast of the Former Mobile Equipment Shop.	<p>Soil and ground water samples from the Former Mobile Equipment Shop and vicinity will be selectively analyzed for TPHd, TPHg, TPHo, VOCs, CA Title 22 metals, ethylene glycol, and PAHs.</p> <p>Selected soil samples and a grab ground water sample from the boring near the gasoline UST will be analyzed for TPHg using EPA Method 8015, VOCs using EPA Method 8260, and lead using EPA Method 6010B/7400.</p> <p>Selected soil samples and a grab ground water sample from the boring near the diesel AST boring will be analyzed for TPHd using EPA Method 8015, BTEX using EPA Method 8260, and PAHs using EPA Method 8270.</p>	

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
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Sampling	Analysis	Further Action
<i>5.3.5 Construction Engineering</i>		
<ul style="list-style-type: none">Two soil borings will be advanced with a direct push drill rig and continuously soil sampled to the water table, where grab ground water samples will be collected, in the area of the portable storage shed.	Soil and ground water samples will be selectively analyzed for TPHd, TPHo, VOCs, PCBs, CA Title 22 Metals, and PAHs.	A ground water monitoring well (with 10 feet of screen casing) may be installed, if warranted, based on the analytical results of grab ground water samples.
<i>5.3.6 Machine Shop / Sheet Metal / Plumbing / Plant Supply</i>		
<ul style="list-style-type: none">Twelve soil borings will be advanced at locations where sample analysis reported impact by petroleum hydrocarbons and continuously soil sampled down to the water table, where grab ground water samples will be collected (this drilling program will be undertaken following building demolition under a future CDP).<ul style="list-style-type: none">Three direct push soil borings will be advanced around previous soil boring P3-49 to evaluate the extent of COPC impact in soil in the area near the Storage Shed.Three soil borings will be advanced near previous soil boring P3-51 (interior of the Machine Shop) to evaluate the extent of COPC impact in soil within the structure.Four soil borings will be advanced near previous soil boring P3-50 and the oil-stained area at the southwest corner of the Machine Shop.One soil boring will be advanced near the sump containing and oily material.One soil boring will be advanced next to the possible track pit.	Soil and ground water samples will be selectively analyzed for TPHd, TPHo, VOCs, PCBs, PAHs, and CA Title 22 metals.	If warranted, additional soil boring locations will be evaluated based on the analytical results.

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
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Sampling	Analysis	Further Action
<i>5.3.7 Covered Shed</i>		
<ul style="list-style-type: none"> Three direct push soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, following demolition of the building under a future CDP. <ul style="list-style-type: none"> One soil boring will be advanced east of the building. One soil boring will be advanced within the building footprint. One soil boring will be advanced west of the building. 	<p>Soil samples will be selected for laboratory testing based on visual field observations and PID screening.</p> <p>Soil and ground water samples will be analyzed for TPHd, TPHo, VOCs, PAHs, and CA Title 22 metals.</p>	
5.4 Parcel 4		
<i>5.4.1 Ponds</i>		
<ul style="list-style-type: none"> Three soil borings will be advanced in each of Ponds 6 and 7 and continuously sampled until native material is encountered. Three soil borings will be advanced in the Former South Pond Area and one soil boring will be advanced in the Former North Pond Area and continuously sampled until native material is encountered. Sediment samples will be collected at each pond using the following general procedure. <ul style="list-style-type: none"> The sampling location will be land surveyed using GPS equipment. The water depth will be measured at each sampling location using a weighted tape measure. Sediment thickness at each location will be measured using a sediment probe manually pushed into the sediment. An appropriate sediment sampling device will be selected based on the sediment thickness at each sampling location. 	<p>Sediment samples will be selectively analyzed for TPHg, TPHd, TPHo, VOCs, PAHs, cyanide, PCBs, dioxins and furans, hexavalent chromium (Cr VI), and CA Title 22 metals.</p> <p>Surface water samples will be field-filtered and analyzed for CA Title 22 metals.</p>	<p>Based on the results of the associated sediment sample analyses, an additional surface water sample may be collected at a later date for the analysis of COPCs reported in the sediment sample.</p>

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
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Sampling	Analysis	Further Action
<ul style="list-style-type: none">- Sediment samples will be retained from the top of the sediment and at no greater than 5-foot intervals thereafter in order to characterize the full sediment thickness.• Samples will be retained within clear acetate liners and examined both visually and with a photo ionization detector (PID) or flame ionization detector (FID) for COPC impact evidence.• A surface water sample will be collected near the sediment-water interface at each sediment sampling location to evaluate the interaction between the water and underlying sediment.		
<i>5.4.2 Equipment Fueling Area near the Hog Fuel Pile</i>		
<ul style="list-style-type: none">• Two direct push borings will be advanced and continuously soil sampled down to the water table, where grab ground water samples will be collected.	Soil and ground water samples will be selectively analyzed for target-analyte compounds associated with diesel fuel (i.e., TPHd, BTEX, and PAHs).	
<i>5.4.3 Former Bunker Fuel Aboveground Storage Tanks</i>		
<ul style="list-style-type: none">• Four direct push soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, in the impacted area identified in the 1992 GTI investigation report.	Soil and ground water samples will be selectively analyzed for TPHo, TPHd, PAHs, and CA Title 22 metals.	After reviewing the analytical data, additional soil boring locations may be selected to further assess the extent of soil and ground water COPC impact.

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Sampling	Analysis	Further Action
5.5 Parcel 5		
<i>5.5.1 Truck Wash Pit</i>		
<ul style="list-style-type: none">RWQCB memos and photographs will be reviewed to assist sampling location placement.Three direct push soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, in the area (discussed in Section 5.5.5.3 also).	Soil and ground water samples will be analyzed for TPHg, TPHd, TPHo, VOCs, CA Title 22 metals, and PAHs based on visual observations and PID screening.	
<i>5.5.2 Mobile Equipment Shop</i>		
<p>Soil sampling of areas beneath foundations will be conducted following foundation excavation and removal under a future CDP. Proposed investigation (see Figure 9) includes:</p> <ul style="list-style-type: none">The fuel-transmission pipeline west of the building will be excavated and removed. Soil in the excavation will be assessed for petroleum impact. If warranted, soil samples will be collected from the excavation for laboratory analysis.Four soil borings will be advanced and continuously sampled down to the water table, where grab ground water samples will be collected to aid in the placement of ground water monitoring wells, outside of the area encompassed by previous soil borings P5-22 through P5-24 to characterize the lateral and vertical extent of soil COPC impact.At least one soil boring will be advanced and continuously sampled down to the water table, where a grab ground water sample will be collected to aid in the placement of ground water monitoring wells, at the north shed to evaluate potential sources of COPC impact.At least one soil boring will be advanced and continuously sampled down to the water table, where a grab ground water sample will be collected to aid in the placement of ground water monitoring wells, at the west shed to evaluate potential sources of COPC impact.	<p>Selected soil and ground water samples will be analyzed for TPHd, TPHg, TPHo, VOCs, CA Title 22 metals, and PAHs.</p> <p>Selected ground water samples will be analyzed for ethylene glycol.</p> <p>Soil samples collected during drilling of the two monitoring wells will be analyzed for TPHd using EPA Method 8015, BTEX using EPA Method 8260m and PAHs using EPA Method 8270.</p>	

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
 Georgia-Pacific California Wood Products Manufacturing Facility
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Sampling	Analysis	Further Action
<ul style="list-style-type: none"> Two monitoring wells will be installed approximately 75 feet northwest and southwest of pothole P5-PH3 where TPHd impacts to soil were reported in the TRC July 2004 investigation. 		
<p>An evaluation of ground water conditions in the vicinity of the Mobile Equipment Shop will tentatively be performed, including:</p> <ul style="list-style-type: none"> One monitoring well north of the building constructed and screened from 5 to 20 feet bgs. One monitoring well south of the oil-change pit constructed and screened from 5 to 20 feet bgs to evaluate the extent of ground water COPC impact to the north and south. In an effort to evaluate whether offsite sources are contributing chlorinated-VOC impact to the ground water, existing monitoring wells at the east adjacent gas station will be sampled concurrently with the onsite monitoring wells. 	<p>Ground water samples will be analyzed for TPHd, TPHg, TPHo, VOCs, CA Title 22 metals, and PAHs.</p>	
<i>5.5.3 Area West of Mobile Equipment Shop</i>		
<ul style="list-style-type: none"> One soil boring will be advanced and continuously sampled to the water table, where a grab ground water sample will be collected, in the area of the former 1,000-gallon Diesel UST. One direct push soil boring will be advanced and continuously sampled to the water table, where a grab ground water sample will be collected, north of the geophysical survey area. Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, west of the geophysical survey area. One soil boring will be advanced and continuously sampled to the water table, where a grab ground water sample will be collected, to the southwest of soil boring SB-1 to evaluate the extent of COPC impact. 	<p>Soil and ground water samples will be selectively analyzed for TPHd, TPHo, TPHg, VOCs, CA Title 22 metals, ethylene glycol (selected ground water samples only), and PAHs.</p>	<p>Based on the soil and ground water analytical data, locations may be selected for ground water monitoring wells, which will be screened from 5 to 15 feet bgs.</p>

TABLE 5

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Sampling	Analysis	Further Action
<i>5.5.4 Transformer Pad</i>		
<ul style="list-style-type: none">Four direct push soil borings will be advanced and continuously sampled to the water table in the vicinity of previous sample P5-14 (located near the northeast corner of the pad).	Two soil samples from each soil boring will be analyzed for TPHo using EPA Method 8015 and PCBs.	
<i>5.5.5 Fuel Storage and Dispenser Building</i>		
<ul style="list-style-type: none">Four direct push soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, beneath the former AST locations (one soil boring for each AST).Eight additional soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, at the perimeter of the area where petroleum impact was reported.<ul style="list-style-type: none">Two soil borings east and southwest of soil boring P5-35.One soil boring south of soil boring P5-36.Five soil borings in the vicinity of soil boring P5-34 and monitoring well MW-5.5 (three of these borings were described in Section 5.5.1.3 and will also serve to investigate the Truck Wash Pit).	Soil and ground water samples will be analyzed for TPHd, TPHo, TPHg, VOCs, lead, and PAHs to evaluate subsurface conditions.	Additional soil borings may be added to the program based on the findings from the initial sample analyses.
<i>5.5.6 Tire Shop</i>		
<ul style="list-style-type: none">One direct push soil boring will be advanced and continuously sampled to the water table, where a grab ground water sample will be collected, approximately 50 feet west of soil boring P5-37.One direct push soil boring will be advanced and continuously sampled to the water table, where a grab ground water sample will be collected, approximately 100 feet west of monitoring well MW-5.3.	Soil and ground water samples will be selectively analyzed for TPHd, TPHg, TPHo, VOCs, CA Title 22 metals, ethylene glycol (selected ground water samples only), and PAHs.	Locations for one or two monitoring wells will be selected based on review of the ground water analytical data.

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
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Sampling	Analysis	Further Action
<i>5.5.7 Fill Area at Log Pond</i>		
<ul style="list-style-type: none">A geophysical survey of the Log Pond East Fill Area to (1) characterize the extent of the fill area; (2) identify areas of buried metal and other debris; (3) identify areas of elevated soil conductivity that may suggest the presence of soil COPC impact. The geophysical survey will use both ground conductivity and time domain electromagnetic metal (TDEM) detector surveys. The ground conductivity survey will use the Geonics EM-31, which uses electromagnetic induction to measure the ground conductivity. The Geonics EM-61 will be used for the TDEM detector survey to detect buried metallic objects. Both instruments will be operated in automatic data acquisition mode and record data in a data logger along 10-foot-interval survey lines. Survey data locations will be obtained simultaneously using a global positioning system (GPS) unit rated to sub-meter accuracy, with the location data recorded in a data logger.Fifteen direct push soil borings will be advanced and continuously sampled until native material is encountered; also, grab ground water samples will be collected at each location.<ul style="list-style-type: none">Soil borings will be located in the area bounded by monitoring well MW-5.6, the geophysical survey area, Pond 5, and the Log Pond.	Soil and ground water samples will be selectively analyzed for TPHd, TPHo, VOCs, CA Title 22 metals, PCBs (selected samples), dioxins and furans (selected samples), and PAHs based on field observations.	
<i>5.5.8 Former Oil House</i>		
<ul style="list-style-type: none">Two direct push soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, at the Former Oil House.	Soil and ground water samples will be selectively analyzed for TPHd, TPHo, VOCs, CA Title 22 metals, and PAHs.	Additional soil borings may be completed to further assess the extent of soil and ground water impact based on a review of the initial chemical data.

TABLE 5

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Sampling	Analysis	Further Action
<i>5.5.9 Former Open Refuse-Fire, Engine House, and #5 Shingle Mill</i>		
<ul style="list-style-type: none">Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, in the Former Open Refuse-Fire Area.<ul style="list-style-type: none">If soil borings cannot be located within the proposed area due to equipment access restrictions, they will be relocated nearby as feasible.Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, in the Former Engine House Area north of the existing berm (the area south of the berm may be inaccessible to drilling equipment).Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, in the Former Number 5 Shingle Mill Area.	Soil and ground water samples will be selectively analyzed for TPHd, TPHo, VOCs, CA Title 22 metals, dioxins and furans (selected samples at the Open Refuse-Fire Area), and PAHs.	
5.6 Parcel 6		
<i>5.6.1 Former Hazardous Waste Storage Area</i>		
<ul style="list-style-type: none">Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, interior of the building (near previous soil boring P6-1).Three soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, exterior of the building (near pothole P6-PH3).	Soil and ground water samples will be analyzed for TPHd, TPHo, VOCs, CA Title 22 metals, PAHs, and PCBs.	Additional soil borings may be completed based on chemical data from the initial soil borings.

TABLE 5

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Sampling	Analysis	Further Action
<i>5.6.2 Planer #2</i>		
<ul style="list-style-type: none">Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, near previous soil boring P6-3 to evaluate soil and ground water impact by petroleum hydrocarbons.Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, exterior of the building north and south of soil boring P6-10 to assess the extent of soil TPHd impact.Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, north of the building in the area of the former compressor house.Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, at the former dispenser and UST area near the northeast building corner.	<p>Soil samples will be selectively analyzed for formaldehyde using EPA Method 8315, and ground water samples will be selectively analyzed for TPHd, TPHo, VOCs, phenol, pentachlorophenol, tetrachlorophenol, dioxins and furans (where pentachlorophenol is detected), DDAC, propiconazole, CA Title 22 meals, and PAHs.</p> <p>Samples from the former UST and dispenser location will additionally be analyzed for TPHg.</p>	<p>Other soil boring locations may be added to the program based on a visual survey of areas containing sumps, floor cracks, surface staining, or other environmentally pertinent features.</p>
<i>5.6.3 Former Truck Shop</i>		
<ul style="list-style-type: none">Three direct push soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, in the Former Truck Shop Area.	<p>Soil and ground water samples will be selectively analyzed for TPHg, TPHd, TPHo, VOCs, CA Title 22 metals, ethylene glycol (selected ground water samples only), and PAHs.</p>	<p>Additional soil boring locations may be added based on the analytical data from the initial three soil borings.</p>

TABLE 5

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Sampling	Analysis	Further Action
<i>5.6.4 Former Vehicle Maintenance Shop (Shipping Office)</i>		
<ul style="list-style-type: none"> The 6-by-12-foot GPR anomaly located approximately 60 feet north and 10 feet east of the northeast building corner will be excavated to assess its nature. Eight soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be taken, in the Former Vehicle Maintenance Shop, Oil House, and Number 8 Fiber Plant Areas. <ul style="list-style-type: none"> Four soil borings will be advanced in the area of previous soil borings P6-12 and P6-14 to evaluate the extent of COPC soil impact reported in samples from those soil borings. Two soil borings will be advanced in the area of the Former Oil House, based on the location shown on the 1960s facility map. Two soil borings will be advanced in the area of the Former Number 8 Fiber Plant to investigate potential soil impact from historical operations at that facility. 	Soil and ground water samples will be selectively analyzed for TPHd, TPHg, TPHo, VOCs, PAHs, CA Title 22 metals, and ethylene glycol (selected ground water samples only).	Additional soil borings may be advanced based on a review of the initial analytical data. Additional soil borings may be advanced based on a review of the initial analytical data.
<i>5.6.5 Former Aboveground Storage Tank</i>		
<ul style="list-style-type: none"> Four direct push borings will be advanced in a square array centered on previous soil boring P6-15 and continuously sampled to the water table, where grab ground water samples will be collected. 	Soil and ground water samples will be analyzed for TPHd, TPHo, PAHs, and CA Title 22 metals.	Additional boring locations may be selected based on a review of the initial analytical data.
<i>5.6.6 Fill Area</i>		
<ul style="list-style-type: none"> A geophysical survey <ul style="list-style-type: none"> A ground conductivity survey consisting of a Geonics EM-31 using electromagnetic induction to measure ground conductivity A TDEM detector survey using the Geonics EM-61 to detect buried metallic objects Instruments will be operated in automatic data acquisition mode and record data in a data logger along 10-foot-interval survey lines. 	Soil and ground water samples taken from these three locations and analyzed for TPHd, TPHo, VOCs, PAHs, dioxins and furans (selected samples), PCBs (selected samples), and CA Title 22 metals.	Based on a review of the soil and ground water data, approximately three ground water monitoring wells will be screened from 5 to 15 feet bgs and continuously soil sampled to total depth during

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
 Georgia-Pacific California Wood Products Manufacturing Facility
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Sampling	Analysis	Further Action
<ul style="list-style-type: none"> – Survey data locations will be obtained simultaneously using a GPS unit rated to sub-meter accuracy, with the location data recorded in a data logger. • Three potholes or large-diameter borings to evaluate the nature of the fill. 		drilling to evaluate ground water conditions across the area.
5.7 Parcel 7		
<i>5.7.1 Hazardous Materials Storage Area</i>		
<ul style="list-style-type: none"> • Three soil borings will be advanced east, west, and south of soil boring P7-1 and continuously sampled to the water table (anticipated at approximately 7 feet bgs), and grab ground water samples collected, to evaluate the extent of soil TPHd impact reported at soil boring P7-1. 	Soil and grab ground water samples will be selectively analyzed for TPHo using EPA Method 8015, TPHd, VOCs, CA Title 22 metals, and PAHs.	
<i>5.7.2 Beehive Burner and Fuel Aboveground Storage Tanks</i>		
<ul style="list-style-type: none"> • Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, north and northwest of previous soil borings P7-10 and P7-11. 	Soil and ground water samples will be selectively analyzed for TPHo using EPA Method 8015, TPHd, VOCs, dioxins and furans (selected samples), CA Title 22 metals, and PAHs.	A map plotting the findings of the geophysical survey along with the previous and new soil boring locations will be submitted with the investigation report as requested by RWQCB.
<i>5.7.3 Diesel Tank, Generator, Pump, and South Ponds</i>		
<ul style="list-style-type: none"> • Three direct push soil borings (one for each feature: Diesel AST, Pump, and Generator) will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, to investigate the equipment area north of Pond 2. 	Soil and ground water samples will be selectively analyzed for TPHd, TPHo, VOCs, and PAHs.	

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
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Sampling	Analysis	Further Action
<ul style="list-style-type: none">Sediment samples will be collected using two soil borings performed at each pond using the following general procedure.<ul style="list-style-type: none">The sampling location will be land surveyed using GPS equipment.The water depth will be measured at each sampling location using a weighted tape measure.Sediment thickness at each location will be measured using a sediment probe manually pushed into the sediment.An appropriate sediment sampling device will be selected based on the sediment thickness at each sampling location.Sediment samples will be retained from the top of the sediment and at no greater than 5-foot intervals thereafter in order to characterize the full sediment thickness.	Samples will be analyzed for VOCs, TPHd, TPHo, PAHs, CA Title 22 metals, Cr VI, dioxins and furans (selected samples), cyanide, and PCBs (selected samples).	
<ul style="list-style-type: none">A surface water sample will be collected near the sediment-water interface at each sediment sampling location to evaluate the interaction between the water and underlying sediment.	Surface water samples will be field-filtered and analyzed for CA Title 22 metals.	Based on the results of the associated sediment sample analyses, an additional surface water sample may be collected at a later date for the analysis of COPCs reported in the sediment sample.
5.7.4 Existing Water Supply Well Abandonment		
<ul style="list-style-type: none">Inspection of each well to assess its status and conditionOverdrilling and removal from the subsurface of well casings using hollow-stem auger equipmentBackfilling with neat cement to the total depth of each resulting hole using a tremie pipe		

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
 Georgia-Pacific California Wood Products Manufacturing Facility
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Sampling	Analysis	Further Action
<i>5.7.5 Soil and Ash Stockpiles</i>		
<ul style="list-style-type: none"> Two samples of the Soil Stockpile. 	Samples will be analyzed for TPHo using EPA Method 8015, TPHg, TPHd, VOCs, PAHs, and lead for disposal characterization.	
<ul style="list-style-type: none"> Two samples of the Ash Stockpile. 	Samples will be analyzed for dioxins and furans (selected samples), PAHs, and CA Title 22 metals for disposal characterization.	
<ul style="list-style-type: none"> A waste disposal manifest will be completed for offsite disposal of both Stockpiles at a Class II landfill if chemical concentrations are within acceptable limits. 		A certified waste hauler will be used to transport the soil and ash to the disposal facility.
5.8 Parcel 8		
<i>5.8.1 Airstrip Fueling Area</i>		
<ul style="list-style-type: none"> Two soil borings will be advanced and continuously soil sampled to the water table, where grab ground water samples will be collected, near the center of each former building (based on the locations depicted in the aerial photograph). 	Soil and ground water samples will be selectively analyzed for TPHg, TPHd, VOCs, and lead.	
<i>5.8.2 Fill Area (Disturbance Along Coastal Region)</i>		
<ul style="list-style-type: none"> Geophysical survey of the area to evaluate the extent of fill materials and identify potential rail lines. 		Based on survey results, locations will be selected and excavated using a backhoe or large-diameter auger to evaluate potential geophysical anomalies and lateral and

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
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Sampling	Analysis	Further Action
		vertical fill extent. Previous investigations indicate the potholes will begin in the vicinity of previous potholes P8-T2 and P8-PH6 and proceed radially outward (two potholes excavated in Parcel 8 are designated P8-PH6: one at the clinker piles excavated on March 17, 2003 for the Phase II investigation and another in the Coastal Disturbance Area excavated on July 20, 2004 for the additional site assessment).
<ul style="list-style-type: none">Potholes will be advanced and soil sampled to native material to assess vertical fill extent (ground water sampling in this area is not anticipated).	Soil samples will be selectively analyzed for TPHd, TPHo, dioxins and furans (selected samples), CA Title 22 metals, PCBs (selected samples), VOCs, and PAHs.	

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
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Sampling	Analysis	Further Action
<i>5.8.3 Clinker Piles</i>		
<ul style="list-style-type: none">Ten soil borings or potholes (depending on equipment accessibility) will be completed to approximately 5 feet bgs. At least one clinker and one soil sample will be collected at each location.	Soil and clinker samples will be analyzed for dioxins and furans (selected samples), CA Title 22 metals, and PAHs.	Evaluation of disposal and treatment options to decide the final disposition of the clinker material will be accomplished after reviewing the laboratory data.
5.9 Parcel 9		
<ul style="list-style-type: none">Two soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, to evaluate soil and ground water conditions near the sump located in the greenhouses east of the Chemical Mixing Shed.Seven step-out soil borings will be advanced and continuously sampled to the water table, where grab ground water samples will be collected, at the perimeter of the area where pesticides were reported in soil and ground water samples.A phased sample analysis approach will be used to detect Nursery COPCs (Table 1) in samples collected near the sump. The results of these analyses will determine target-analyte lists for subsequent samples collected at additional locations.	Soil and ground water samples will be selectively analyzed for pesticides and nitrate, as listed in Table 1.	

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
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Sampling	Analysis	Further Action
5.10 Parcel 10		
<ul style="list-style-type: none">Ten borings or potholes will be advanced at the piles to approximately 10 feet bgs to characterize chemical concentrations in stockpile and underlying soil samples.<ul style="list-style-type: none">Sample locations will be chosen randomly from a systematic grid overlay at a spacing of approximately 15 feet.	Samples will be analyzed for TPHd, TPHo, VOCs, dioxins and furans, PCBs, PAHs, and CA Title 22 metals.	Analytical data will be reviewed to evaluate options for the long-term disposition of the waste materials, which may include onsite treatment or offsite transport and disposal at an appropriate facility.
5.11 Pond 8 and Storm Drain		
<i>5.11.1 Pond 8</i>		
<ul style="list-style-type: none">Surface water sample collection at outfall.<ul style="list-style-type: none">The water sample location upstream of the outfall to the ocean will be accessed by a small boat or on foot within an area where bottom sediments have not been disturbed.	The sample will be tested for VOCs, TPHg, TPHd, TPHo, PAHs, CA Title 22 metals, cyanide, and Cr VI.	
<ul style="list-style-type: none">Sediment samples will be collected using four soil borings performed at equally spaced intervals along the axis of the pond using the following general procedures.<ul style="list-style-type: none">The sampling location will be land surveyed using GPS equipment.The water depth will be measured at each sampling location using a weighted tape measure.Sediment thickness at each location will be measured using a sediment probe manually pushed into the sediment.An appropriate sediment sampling device will be selected based on the sediment thickness at each sampling location.	Samples will be analyzed for VOCs, TPHg, TPHd, TPHo, PAHs, CA Title 22 metals, Cr VI, dioxins and furans (selected samples), cyanide, and PCBs.	

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
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Sampling	Analysis	Further Action
<ul style="list-style-type: none">– Sediment samples will be retained from the top of the sediment and at no greater than 5-foot intervals thereafter in order to characterize the full sediment thickness. Lithologic data from borings near the shoreline will be used to correlate sediment thickness and depth of nearby fill to characterize actual sediment thickness.		
<ul style="list-style-type: none">• A surface water sample will be collected near the sediment-water interface at each sediment sampling location to evaluate the interaction between the water and underlying sediment.	Surface water samples will be field-filtered and analyzed for CA Title 22 metals.	Based on the results of the associated sediment sample analyses, an additional surface water sample may be collected at a later date for the analysis of COPCs reported in the sediment sample.
<i>5.11.2 Storm Drain</i>		
<ul style="list-style-type: none">• Surface water sample collection.<ul style="list-style-type: none">– If there is adequate water volume, samples will be obtained from the storm drain by immersing sampling containers directly into the water without disturbing bottom sediments. If there is inadequate water depth to immerse the containers, then water can be transferred into them from a clean sampling cup.	Surface water samples will be analyzed for VOCs, TPHg, TPHd, TPHo, PAHs, CA Title 22 metals, and Cr VI.	
<ul style="list-style-type: none">• Sediment sample collection.<ul style="list-style-type: none">– Sediment samples can be obtained by pressing a clean stainless-steel sampling tube directly into the media to be sampled. If necessary, a slide hammer can be used to imbed the sample tube.	Sediment samples will be analyzed for VOCs, TPHg, TPHd, TPHo, PAHs, CA Title 22 metals, Cr VI, dioxins and furans, cyanide, and PCBs.	

TABLE 5

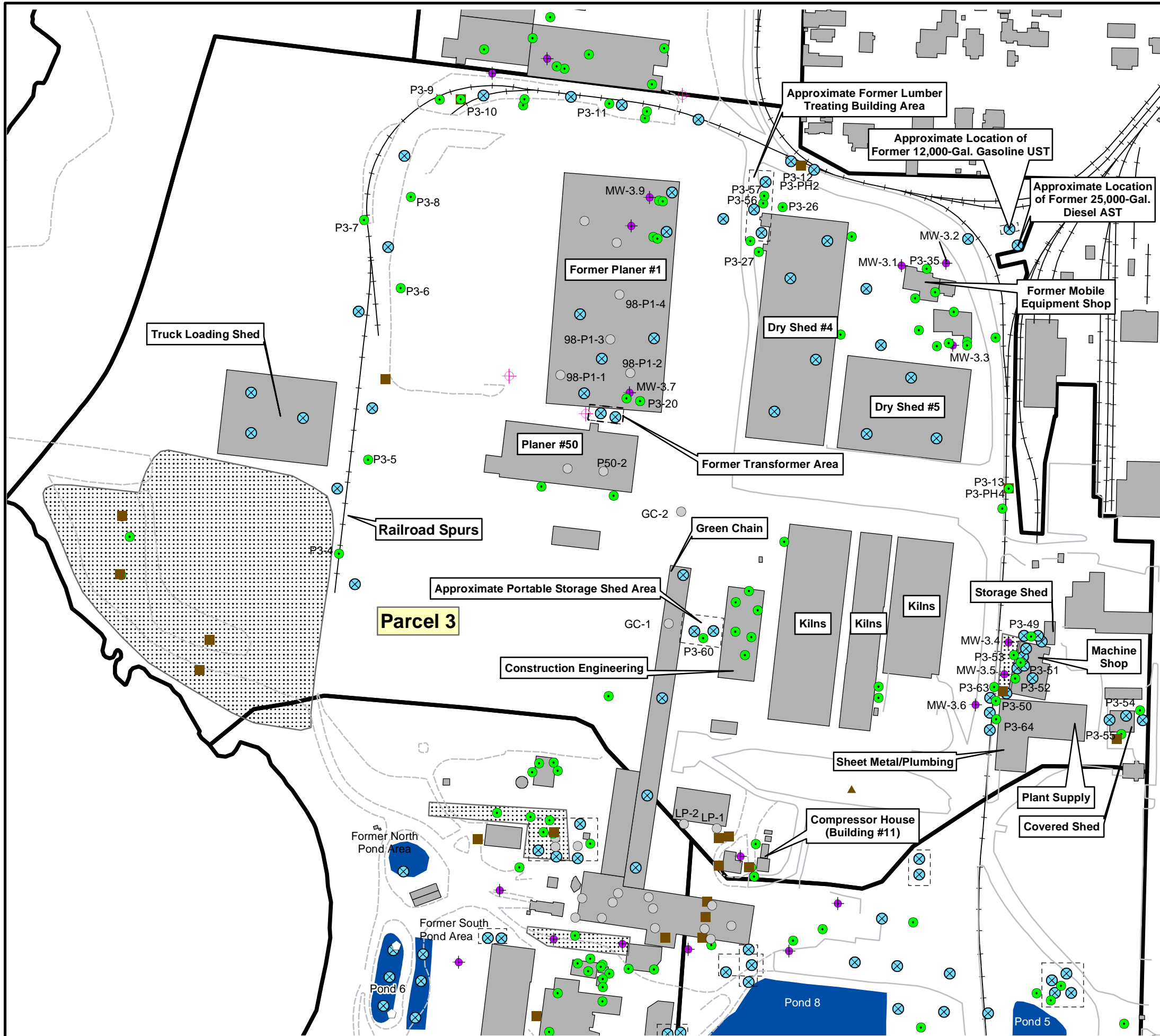
PROPOSED SAMPLING AND ANALYSIS SUMMARY
Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Sampling	Analysis	Further Action
5.12 Roadways		
<ul style="list-style-type: none">• A GPS survey will be conducted to verify the roadway locations and help determine sampling locations.• Samples of surface soil will be collected at four locations judged likely for roadway dust suppression.<ul style="list-style-type: none">– Three samples will be collected at each location at approximately 50-foot intervals along the lines of the former roadways.– Samples will be collected beneath existing asphalt pavement, where present, to characterize surface soils and gravel roadways that were subsequently paved.– Proposed locations include roadways in the following areas:<ul style="list-style-type: none">▪ Finished lumber product storage (Parcel 1)▪ Vicinity of the Helicopter Pad (Parcel 2)▪ South end of the runway, near the Aircraft Fueling Area (Parcel 8)▪ Roadway between the Powerhouse and Sawmill #1 (Parcel 4)	Soil samples will be analyzed for TPHo, VOCs, PAHs, CA Title 22 Metals, and PCBs.	
5.13 Monitoring Well Installation and Ground Water Monitoring		
<ul style="list-style-type: none">• Ground water monitoring wells will be considered at the following locations based on a review of soil and grab ground water data from initial sampling as discussed in Sections 5.1 through 5.3, 5.5, and 5.6:<ul style="list-style-type: none">– Pump House (Parcel 1)– Resaw #5, Glue Lam Building, and Helicopter Landing Pad (Parcel 2)– Former Planer #1 and Former Mobile Equipment Shop (Parcel 3)– Mobile Equipment Shop and Area West of the Mobile Equipment Shop (Parcel 5)– Log Pond West Fill Area (Parcel 6)		Ground water monitoring wells may be planned at other locations depending on an evaluation of grab ground water sample chemistry for soil borings completed in each area.

TABLE 5

PROPOSED SAMPLING AND ANALYSIS SUMMARY
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Sampling	Analysis	Further Action
<ul style="list-style-type: none">• Two sets of paired ground water monitoring wells and piezometers will be installed at the site (one set on Parcel 3 and one set on Parcel 5):<ul style="list-style-type: none">– Monitoring wells will be screened at first-encountered ground water.– Piezometer soil borings will be drilled within 10 feet of the monitoring wells and installed using 8-inch-diameter hollow-stem auger equipment.<ul style="list-style-type: none">▪ The piezometers will extend to the top of bedrock and are intended to provide information on vertical ground water flow conditions.▪ Soil borings will be advanced until bedrock is encountered and sampled at 5-feet-bgs intervals for logging purposes and to confirm stratigraphy encountered in the monitoring wells.▪ When the soil borings have reached total depth, 2-inch-diameter, Schedule 40 PVC casing will be installed.▪ Five feet of screen casing will be installed at the bottom of the piezometer followed by blank PVC casing to the surface.▪ The piezometer screen slot size will be 0.020 inch and the filter pack and bentonite and cement seals will be installed as described for the monitoring wells.		



Legend

Monitoring Well Location and Designation

Borehole Location and Designation

Direct Push Sample Location and Designation

Surface Sample Location

Trench Sample Location and Designation

Pond Sample Location

Proposed Monitoring Well Location

Proposed Soil Boring Location

Pond

Facility Structure

Parcel Boundary

Railroad Track

Unpaved

Pavement

Historical Geophysical Survey Area

Notes:

1. All locations and dimensions are approximate.

2. Historical sampling location labels on the figure designate only locations that are discussed in the Work Plan for this parcel.

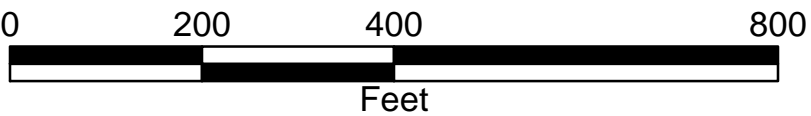


FIGURE 7

PARCEL 3

PROPOSED SOIL BORING/MONITORING WELL LOCATIONS

Georgia-Pacific California Wood Products Manufacturing Facility
90 West Redwood Avenue, Fort Bragg, California

Project No.	16017.07	Drawn By	AAC
Map File	1601707-003	Prepared By	MWC
		Reviewed By	MAA
Revision/Date	1 - 8/9/05	Scale	As Noted

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